

Claims

1. A semiconductor memory chip module having a first memory chip (4) of a first type, a second memory chip (6) of a second type, and an electric connection (14, 16) between the first and second memory chips (4, 6), characterized in that the memory chips (4, 6) are disposed one above the other in different levels and connected by vertical chip interconnections (14, 16).

2. A chip module according to claim 1, characterized in that memory cells (C4) of the first memory chip (4) are firmly allocated to certain memory cells (C6) of the second memory chip (6), and the mutually allocated memory cells (C4, C6) are directly interconnected electrically.

3. A chip module according to claim 1 or 2, characterized in that the first type corresponds to a nonvolatile memory, for example EEPROM, and the second type to a volatile memory, for example SRAM.

4. A chip module according to any of claims 1 to 3, characterized in that at least one further chip (8, 16) is provided in a further level.

5. A chip module according to claim 4, characterized in that the further chip contains decoder circuits (10, 12) for the memory chips (4, 6).

6. A chip module according to any of claims 1 to 5, characterized in that an energy buffer is formed in at least one of the levels.

7. A chip module according to claim 6, characterized in that the energy buffer is formed as an integrated buffer capacitor (20).

8. A chip module according to any of claims 1 to 7, formed for a smart card.

9. A smart card having a semiconductor memory chip module according to any of claims 1 to 8.